

# Elizabeth Jester Fellows Award



## Tommy Dewald, US EPA, Office of Water (retired)

2019 Elizabeth J. Fellows Award Recipient



During his 41-year career with the U.S. Environmental Protection Agency (EPA), Tommy Dewald was a tireless advocate for using geospatial data and technologies to guide water data collection and inventory, enable better scientific analyses, and facilitate public access to information about the water resources of the Nation. In the early 1990s, Tommy was instrumental in the integration of the EPA's Reach File digital stream network with the rich feature content of the U.S. Geological Survey's (USGS) 1:100,000-scale Digital Line Graph hydrography layer to produce the initial National Hydrography Dataset (NHD). This collaborative accomplishment was considered a foundational component of the EPA's water quality

monitoring and assessment program that was overseen by Elizabeth Fellows. In recognition of their innovative work leading the NHD project, Tommy Dewald and Keven Roth (USGS), were honored in 2011 with the USGS Henry Gannett Award for "especially distinguished contributions to the topographic mapping of the Nation." The widespread success of the NHD ultimately led to the development of NHDPlus, which combined the NHD stream network with elevation data to enable the estimation of national stream flow and volume in support of water quality modeling.



Tommy has been a consistent champion and leader of the community that established and continues to advance the vision of a single surfacewater framework for the Nation, in support of the basic tenets of the National Spatial Data Infrastructure. For decades, Tommy advocated for resources and policy, within EPA and across the government, that have enabled the development and application of the NHD, NHDPlus, and related geospatial

datasets and tools. He played a leadership role in the community-based governance bodies for both the NHD and the Watershed Boundary Dataset (WBD). His reasoned advice and support

has made creation of USGS's next generation national hydrography product – the NHDPlus High Resolution (NHDPlus HR) – possible.

The NHDPlus hydrologic framework enables the modeling of water flow across the landscape and through the stream network. This enhanced framework has underpinned nearly all national water quality monitoring, assessment, and modeling efforts in recent years. Applications, such as the Water Quality Portal, ATTAINS (Assessment, TMDL Tracking And Implementation System), WATERS (Watershed Assessment, Tracking and Environmental Results), SPARROW (SPAtially Referenced Regressions On Watershed attributes) models, and the National Water Model, rely upon this framework to enable network search and discovery of water quality analyses, tracking of progress toward meeting water quality improvement goals, and modeling of water quality/quantity conditions and forecast scenarios. Without the development of these core national hydrologic framework datasets that Tommy actively pursued and promoted, those efforts would have had diminished detail and applicability, while most likely based upon more-costly independent, non-standardized geospatial datasets.

Tommy was a spokesperson for all stakeholders, ensuring that they were included in the design and development process, and that their concerns were addressed. It is without doubt that the NHD and NHDPlus would not be the shared, federated, common framework it is today without Tommy Dewald's leadership. Last, but not least, Tommy has been a mentor to many geospatial partners and staff. His guidance, support, and knowledge has shaped many individuals in the geospatial community and given rise to even more advancements in the field.

*Elizabeth Jester Fellows was the Director of the EPA's Assessment and Watershed Protection Division until her death in November 2000. She dedicated her career to natural resources management, environmental protection, and public service. Elizabeth was the EPA co-chair of the Intergovernmental Task Force on Monitoring (ITFM) and envisioned the creation of its successor, the National Water Quality Monitoring Council. She was a strong and effective advocate for developing a nationwide framework for coordinating, collecting, assessing, and communicating water quality monitoring information and results. Elizabeth was the personification of the goals and ideals of the monitoring Council, and her legacy has been an inspiration to those who have followed her and continue the Council's work. In her memory, the Council has established the Elizabeth Jester Fellows Award to recognize individuals for outstanding achievement, exemplary service, and distinguished leadership in water quality monitoring and environmental protection.*